

Essential Fish Habitat Description **Witch flounder (*Glyptocephalus cynoglossus*)**

In its *Report to Congress: Status of the Fisheries of the United States* (September 1997), NMFS determined witch flounder is currently overfished. This determination is based on the fishing mortality rate. Essential Fish Habitat for witch flounder is described as those areas of the coastal and offshore waters (out to the offshore U.S. boundary of the exclusive economic zone) that are designated on Figures 16.1 - 16.4 and meet the following conditions:

Eggs: Surface waters of the Gulf of Maine, Georges Bank, the continental shelf off southern New England, and the middle Atlantic south to Cape Hatteras as depicted in Figure 16.1. Generally, the following conditions exist where witch flounder eggs are found: sea surface temperatures below 13° C over deep water with high salinities. Witch flounder eggs are most often observed during the months from March through October.

Larvae: Surface waters to 250 meters in the Gulf of Maine, Georges Bank, the continental shelf off southern New England, and the middle Atlantic south to Cape Hatteras as depicted in Figure 16.2. Generally, the following conditions exist where witch flounder larvae are found: sea surface temperatures below 13° C over deep water with high salinities. Witch flounder larvae are most often observed from March through November, with peaks in May - July.

Juveniles: Bottom habitats with a fine-grained substrate in the Gulf of Maine and along the outer continental shelf from Georges Bank south to Cape Hatteras as depicted in Figure 16.3. Generally, the following conditions exist where witch flounder juveniles are found: water temperatures below 13° C, depths from 50 - 450 meters, although they have been observed as deep as 1500 meters, and a salinity range from 34 - 36‰.

Adults: Bottom habitats with a fine-grained substrate in the Gulf of Maine and along the outer continental shelf from Georges Bank south to Chesapeake Bay as depicted in Figure 16.4. Generally, the following conditions exist where witch flounder adults are found: water temperatures below 13° C, depths from 25 - 300 meters, and a salinity range from 32 - 36‰.

Spawning Adults: Bottom habitats with a fine-grained substrate in the Gulf of Maine and along the outer continental shelf from Georges Bank south to Chesapeake Bay as depicted in Figure 16.4. Generally, the following conditions exist where spawning witch flounder adults are found: water temperatures below 15° C, depths from 25 - 360 meters, and a salinity range from 32 - 36‰. Witch flounder are most often observed spawning during the months from March through November, with peaks in May - August.

The Council acknowledges potential seasonal and spatial variability of the conditions generally associated with this species.

Essential Fish Habitat
Witch flounder (*Glyptocephalus cynoglossus*) Eggs

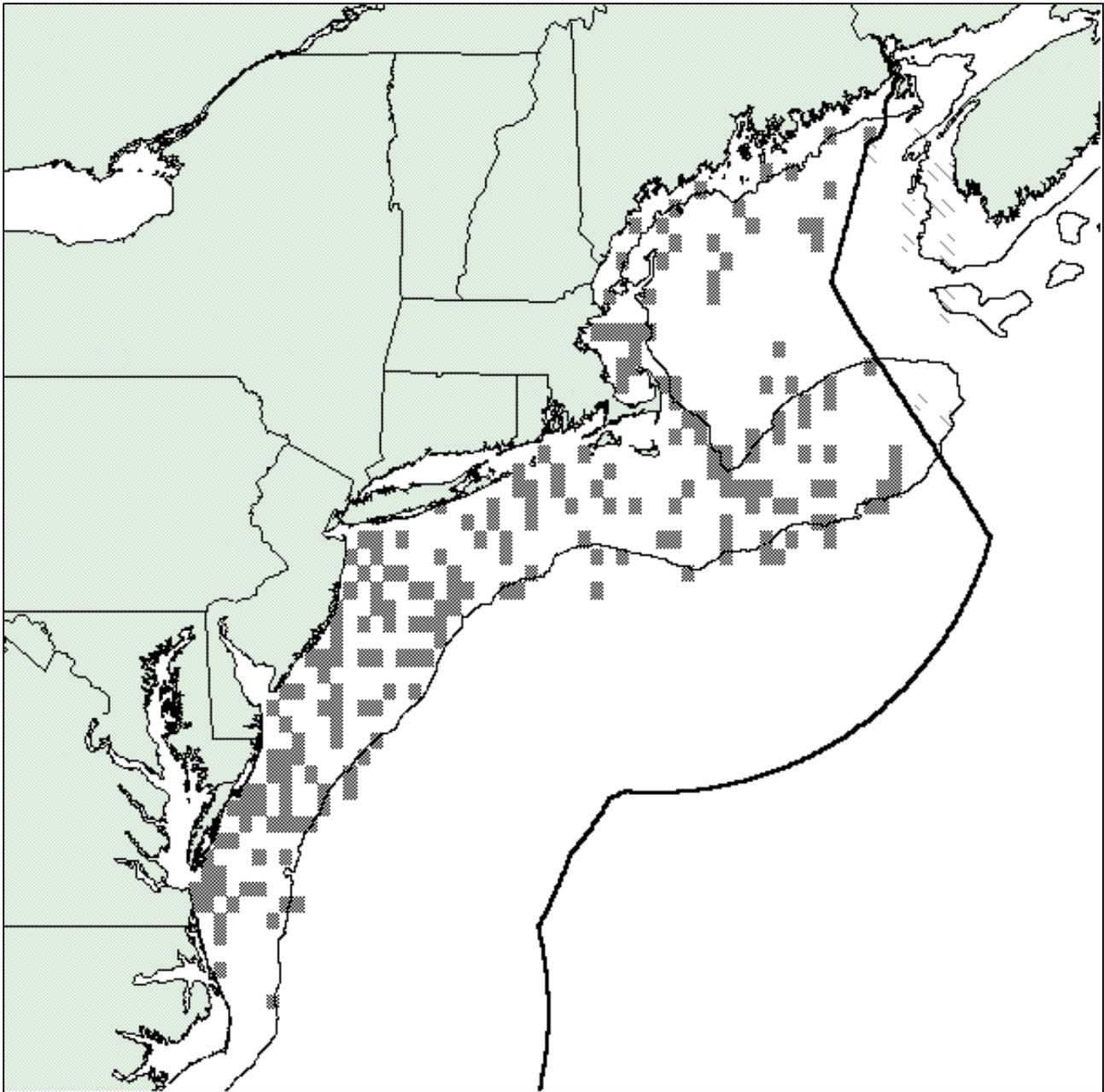


Figure 16.1: The EFH designation for witch flounder eggs is based upon alternative 4 for witch flounder eggs. This alternative was selected to be as inclusive as possible of areas likely to support witch flounder eggs. The light shading represents the entire observed range of witch flounder eggs.

Essential Fish Habitat
Witch flounder (*Glyptocephalus cynoglossus*) Larvae

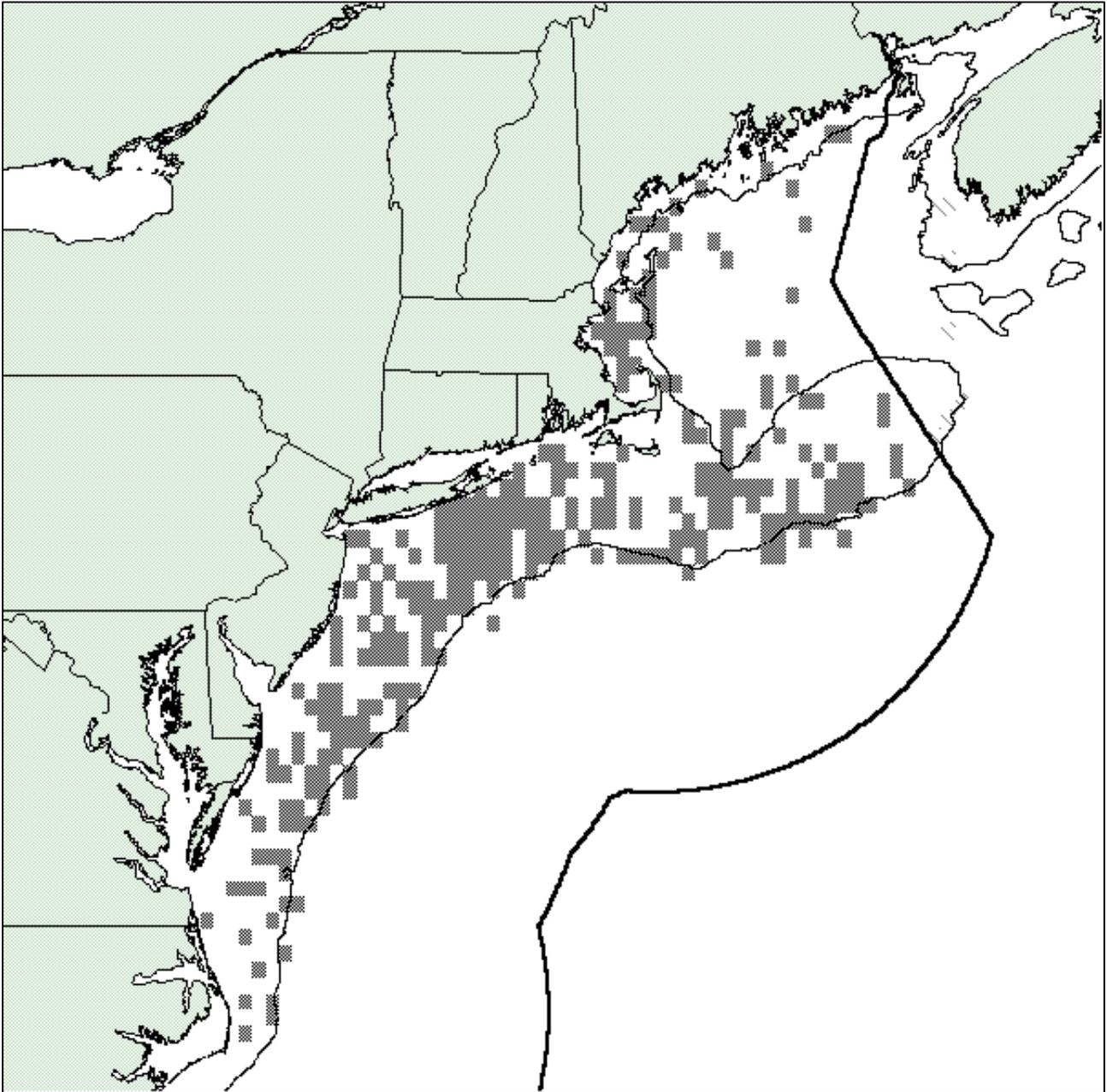


Figure 16.2: The EFH designation for witch flounder larvae is based upon alternative 4 for witch flounder larvae. This alternative was selected to be as inclusive as possible of areas likely to support witch flounder larvae. The light shading represents the entire observed range of witch flounder larvae.

Essential Fish Habitat
Witch flounder (*Glyptocephalus cynoglossus*) Juveniles

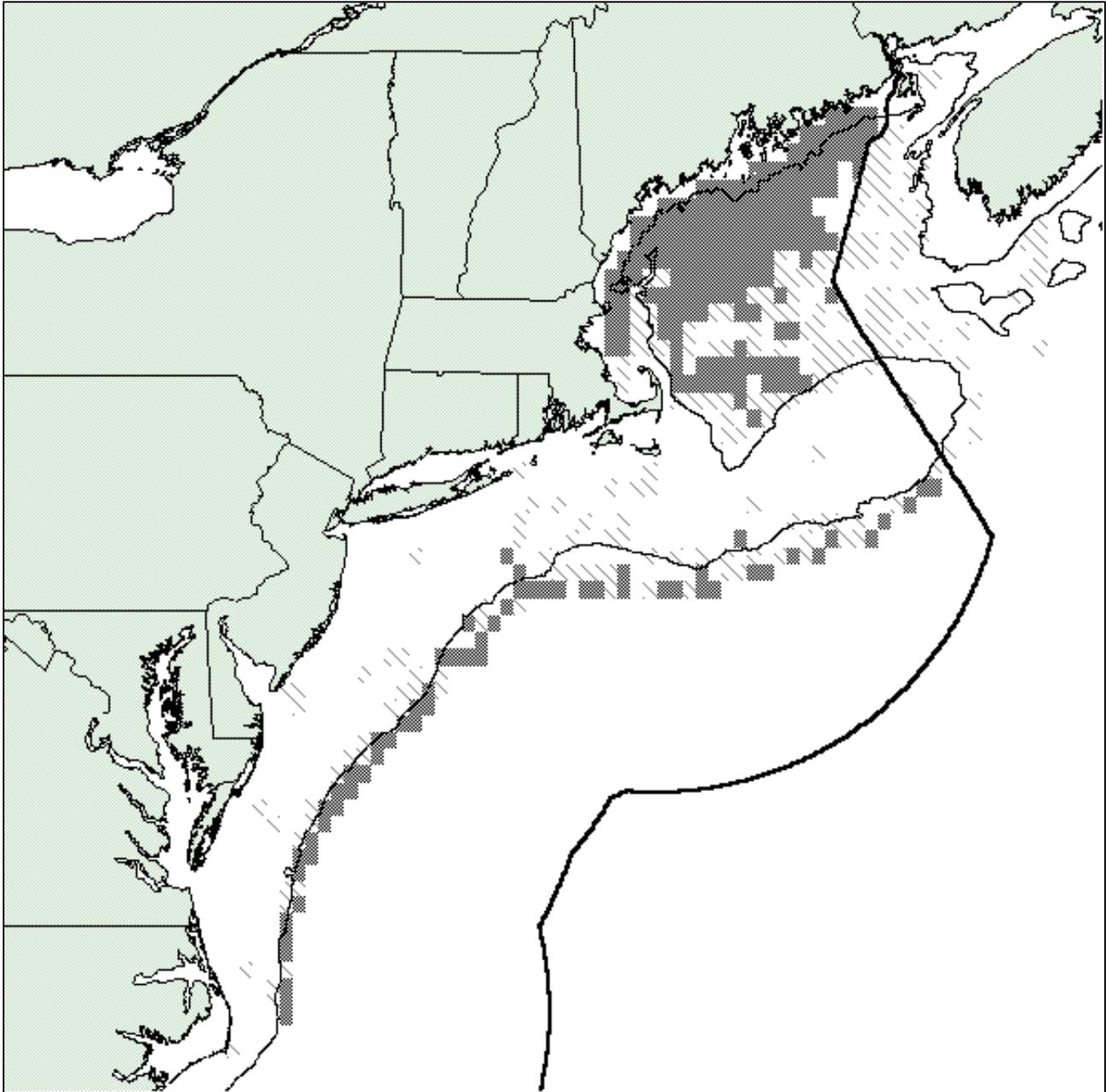


Figure 16.3: The EFH designation for juvenile witch flounder is based upon alternative 3 for witch flounder juveniles. This alternative was selected to include all areas where witch flounder occur in relatively high concentrations, but not areas where they occur in relatively low concentrations. The light shading represents the entire observed range of juvenile witch flounder.

Essential Fish Habitat
Witch flounder (*Glyptocephalus cynoglossus*) Adults

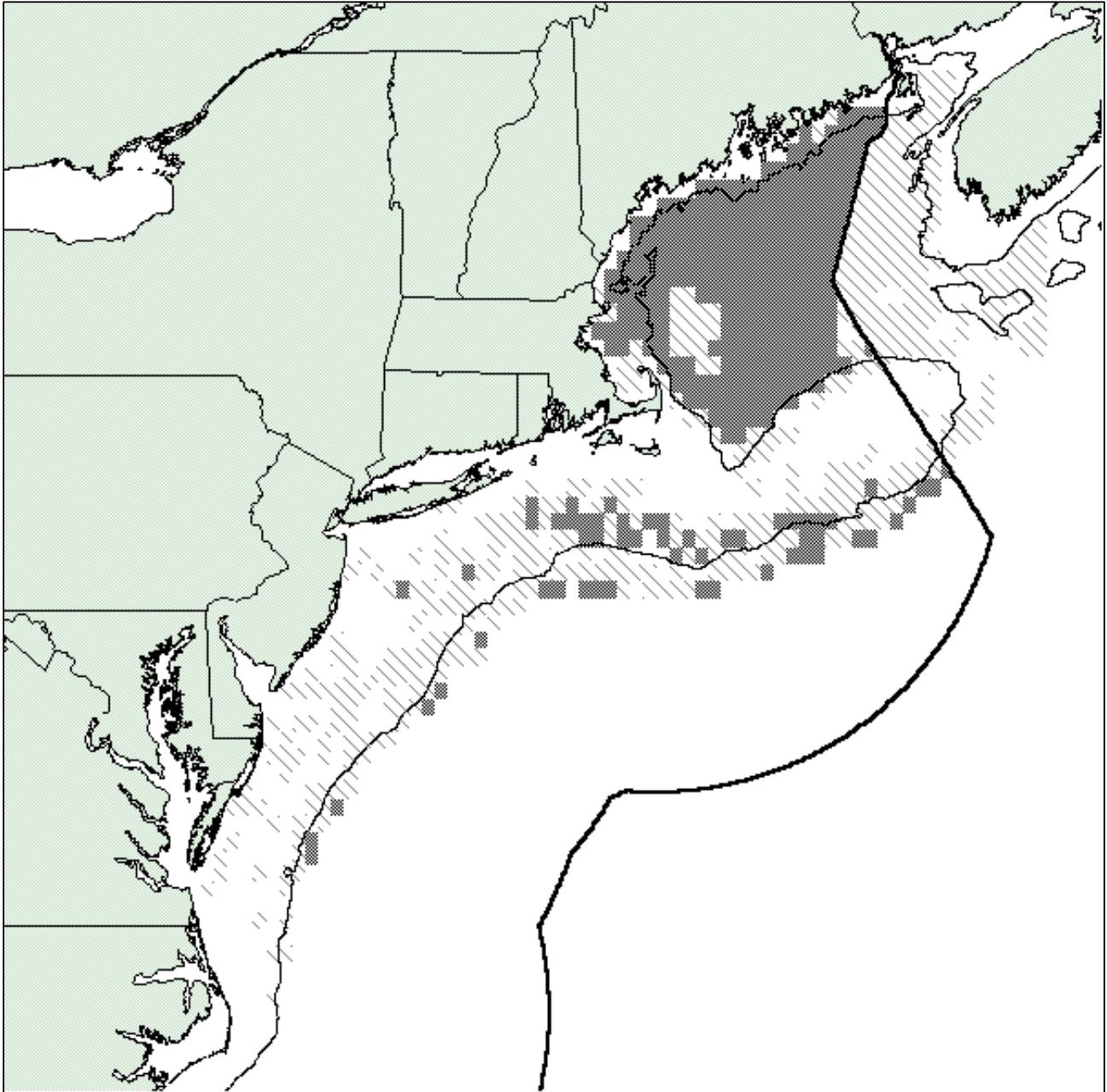


Figure 16.4: The EFH designation for adult witch flounder is based upon alternative 3 for witch flounder adults. This alternative was selected to include all areas where witch flounder occur in relatively high concentrations, but not areas where they occur in relatively low concentrations. The light shading represents the entire observed range of adult witch flounder.